A Work Project, presented as part of the requirements for the Award of a Masters Degree in Management from the NOVA – School of Business and Economics.

The system of Transfer Pricing in a multinational

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Abstract

Transfer prices are used by the majority of firms worldwide when intermediate products or services are transferred within the same organization. These prices are reported as revenue for the selling entity (division, unit, department etc.) and as cost for the buying entity. Nevertheless, transfer prices lead to many disputes among managers in the same organization as transfer prices influence the performance of their entities. In cross-border transactions, transfer prices can be used by firms to reduce corporate taxes and thus, increase total firm profits. In order to fight against this firms' practice, tax authorities require firms to establish a transfer pricing system in accordance with OECD[1] Transfer Pricing Guidelines.

Key words: transfer pricing methods, standard costs, responsibility centres, performance evaluation, OECD Transfer Pricing Guidelines, Arm's Length Principle.

[1] Organization for Economic Co-Operation and Development.

Purpose of the Work Project

Transfer Pricing is defined as the term used to represent the price charged for goods or services by an entity (division, unit, department etc.) that it provides to another entity in the same organization. These transactions can be defined as domestic when they occur in the same country or cross-border transactions when they occur among entities set in different countries. Transfer pricing usually refers to the pricing of transfers of tangible and intangible assets, services, know-how, technology and raw materials. This system is commonly used in vertically integrated firms producing internally in one entity their intermediate products which are then "sold" to other entities of those firms to be furthered processed to produce their final products. From management accounting perspective, transfer prices provide information for companies to make good economic decisions. Moreover, transfer pricing is usually used as a tool by companies' managers to evaluate and compare the managerial and economic performance of its entities but also as means of reducing corporate taxes.

This work project (WP) aims to develop a case study to be the basis for class discussion on the problems of designing and implementing transfer pricing in a multinational from management control as well as tax perspectives. The case study is designed to be used in master courses such as Advanced Managerial Accounting and Management control Systems.

To support the purpose of this WP, the transfer pricing system adopted by a division of a multinational operating in the car components industry was analysed[2]. The multinational under study produces and sells various types of car components for car manufacturers. However, it also sells intermediate components to customers from other types of industries. Although this multinational has various divisions, the case study

[2] The author of this WP is working in the division under study, which will be disguised due to confidential reasons.

with its corresponding assignment questions and teaching notes will focus on the division operating in the wire harnessing market, manufacturing and selling electric and electronic components called "wiring harnesses". But this division also produces other components called "electrical wire ties" and "connectors". The former are incorporated in the latter and the "connectors" in the "wiring harnesses". Thus "wiring harnesses" are the division's final product whereas "electrical wire ties" and "connectors" are the division's intermediate products. As such, this division is organized in three product business units transferring intermediate products among them and which are settled down in different countries.

Multinationals often use transfer pricing as a source to allocate profits to entities operating in countries with low corporate taxes in order to reduce taxable income. To fight against this practise, tax authorities require firms to establish a transfer pricing system in accordance with OECD[3] Transfer Pricing Guidelines. Thus, this work project assesses how these guidelines affect the selection of transfer pricing methods of a specific division in a multinational and how these methods can impact the performance of its business units.

[3] Organization for Economic Co-Operation and Development.

KarConnect[4]

A Case-study on Transfer Pricing

I - Introduction

It was an early morning on a Monday with the sun shining outside of Mr. Power's office, the Finance Manager of Europe for KarConnect. Mr. Power who has been working in the company for nearly 20 years, drives every weekday towards KarConnect head office in Lisbon. That day marked a new life chapter for Anita, a Nova SBE master student, as it was her first day as an intern at KarConnect. She was hired to be business controller and the assistant of Mr. Power for the following year.

In the last months, Mr. Power has been pressured by tax authorities to present a dossier in the next weeks with KarConnect's transfer pricing system for European transactions in accordance with OECD[5] Guidelines. As Mr. Power is a very busy man, he immediately requested Anita's support to accomplish this task and dedicated that day to introduce Anita to the organization's business environment. Mr. Power begun by presenting her KarConnect division's organizational structure and main operations as follows:

KarConnect is one of the five divisions of Karpart[6], a multinational company operating in the car components industry for more than one decade and with presence in more than twenty countries worldwide. The main business of KarConnect is to produce and assemble electric and electronic components used in cars. It has been present in North and South America, Africa, Middle East, Asia, and in Europe. The division is organized in three product business units (henceforth PBUs) to pursue a vertical

[4] All names are fictitious in order to protect the identity of the companies involved in the case study.
[5] Organization for Economic Co-Operation and Development.
[6] See Appendix 1 – Karpart Organizational Chart.

integration strategy materialized through the following process[7]: PBU A produces the intermediate components –"electrical wire ties", i.e., 5cm plastic boxes, which are transferred to PBU B to be added with customized engineering features thereby giving rise to what are called "connectors"[8]; these are subsequently transferred to PBU C where they are used to assemble a final product called "wiring harnesses" and which consists on a long wire with around 10 meters (depending on the size of the car). Afterwards, this final product is transferred to PBU C's service centres to be sold and distributed as final products to external customers- car manufacturers. Each customer order of "wiring harnesses" is customized following a specific procedure. Afterwards, car manufacturers install these wires inside cars to enable them to have electric and electronic systems.

II- Karpart and KarConnect Business Context

Karpart was set up in the XX century in the USA as a public limited holding company to operate in the car components market. More recently, the company's CEO, Mr. Karpassion, decided to expand the business to other continents through wholly-owned subsidiaries. In Europe these subsidiaries are present in countries such as the UK, Luxembourg, Germany and Portugal. For instance, the Portuguese subsidiary incorporates two divisions producing car components, including KarConnect division.

At the end of 2014, Karpart reported a total of 127 000 employees and 37000 subcontracted worldwide who were distributed in 129 manufacturing plants and 15 service centres. Karpart's annual sales growth was 3% in 2014 and 6% in 2013, the decrease is being explained by the decline of car manufacturing in Europe in 2014. However, the company's seeks to reinforce its presence in the Asian markets with

[7] See Appendix 2 – KarConnect Production Process.
[8] See Appendix 3 – Connector.

special focus on China due to its economic growth. -With this international expansion, Mr. Karpassion main goal for the company is to make it a worldwide leader in the car components' market.

During the last annual meeting[9] of the board of directors, he stated:

"*We[Karpart companies] aim to become our customers' first choice for every product we manufacture and distribute, providing new technology solutions, driving operational superiority, and committing to the highest standards of business practices – all of which will lead to Karpart's long-term growth, value and success".*

KarConnect was the first division set up by Karparty to respond to the crescent market for vehicle electrification and is currently the most relevant business of the multinational: in 2014 KarConnect worlwide sales represented 48% of total Karpart sales, achieving an annual growth of 2,6% from previous year. The vertical integration strategy adopted at KarConnect is due to the imperfect market for the intermediate components, the "connectors", which need to be customised to produce "wiring harnesses". Thus KarConnect can provide customised and high quality products to its customers by holding the three production stages starting in PBU A and finishing in PBU C.

Moreover, KarConnect follows a decentralized organizational structure as the managers of each of the three PBUs are free to make decisions concerning selling prices, input mix (materials, labor, etc), product mix as well as to choose their suppliers and hence, being accountable for the performance of their business units. Investments decisions such as the acquisition of equipments, plants openings etc, are held by the parent company managers, that is, Karpart managers.

[9] January 25th 2015

III- KarConnect Industry Analysis

Currently KarConnect operates in a very competitive industry. Its major players are shown in the table below.

Table 1 – KarConnect Competitive Environment and market share

Company Name	Business description	Annual Sales (2013) in millions	Market Share
Sumitomo Corporation	Manufacturer of circuit boards used for industrial devices including elevators, escalators and bank ATMs, in-car equipment	$ 32.16	34%
Lear Corporation	Two major business: seating business segment and the electrical business segment.	$16.2	17%
Yazaki	Focus on wire harnesses and components such as connectors and terminals	$15.6	16%
TE Connectivity, Ltd.	Designs and manufactures connectivity and sensor solutions	$13.3	14%
Molex Inc.	Manufacturer of electronic interconnectors	$7,200	8%
KarConnect	Manufacturer of wire harnessing and connectors as components	$7.972	8%
Leoni AG	Manufacturer of cable and harnessing	$2.321	2%

Source: KarConnect internal documents

With only 8% of market share in 2013, KarConnect faced big competition in the wire harnessing market even though the number of competitors has decreased due to ongoing consolidation movements in the car components industry. Price, product quality and customisation, timeliness of delivery, product innovation and customer service are some of the most important characteristics car manufacturers draw on to evaluate their suppliers. Besides all of these requirements, KarConnect needs to achieve higher efficiencies[10] through cost reductions in labor costs to compete with its rivals.

Barriers to entry can be high for potential new entrants in the wire harnessing market as all companies operating in this market are vertically integrated in order to produce internally the intermediate products needed to produce the "wiring harnesses". Thus, potential entrants may have to enter all stages of the business process including

[10] KarConnect's efficiency is a percentage equal to the standard hours needed to produce the business unit product over direct labor worked hours multiplied by 100. An efficiency of 100% means that direct labor can produce the product within their worked hours. An efficiency lower than 100% means that standard hours needed are lower than the direct labor worked hours which means that there is an excess of direct labor.

the production of "electrical wire ties" and "connectors" to produce the "wiring harnesses" in order to compete with the biggest market players. This is costly and requiring significant cash resources. About the threat of new entrants in the market and current competition KarConnect's finance manager, Mr. Power said to Anita:

"KarConnect believes to have the experience and the capabilities to optimize cost, performance and functionality to provide its customers superior solutions for their needs".

All the three PBU's in which KarConnect is organised sell to outside or external customers, with selling prices being decided by the managers of each PBU. As such:

- PBU A which produces the "electrical wire ties" sells them to outside customers that need them to produce connectors;
- PBU B produces customised "connectors" for customers from the automotive industry and also from non-automotive industries such as marine, manufacturers of motorcycles and of vehicles for the construction industry, and for the farm and agriculture industry;
- PBU C sells "wiring harnesses" exclusively for customers from the automotive industry - car manufacturers. PBU C's customers with the highest percentage of net sales include General Motors, Volkswagen Group, Fiat Chrysler Automobiles N.V. and Toyota Motor Corporation.

The automotive/car components market is a function of the number of new vehicles produced, which is driven by macro-economic factors such as consumer confidence, employment, credit availability, interest rates, fuel prices etc. Thus, economic recessions will lead to a decline on car production and affect KarConnect sales as car manufacturers will order less car components.

KarConnect's raw materials are bought to a variety of suppliers around the world. Generally, the division seeks to obtain materials in the region in which its products are

manufactured in order to minimize transportation and other costs. The most significant raw materials used to manufacture KarConnect's products are aluminium, copper and resin.

Raw material consumption, which is the main variable cost at KarConnect, weights significantly in KarConnect's cost structure[11] accounting for 55% of the division's total revenues. Other manufacturing expenses (henceforth MFG expenses), which include labor and overhead costs, account for 21, 9% of revenues and result from four functions:

- *Operations*: expenses incurred with the production of the products; in PBU C these expenses include cutting of wires, assembly of wires with connectors and maintenance of wiring harnesses;
- *PC&L*: expenses incurred with production control and logistics;
- *Quality*: expenses incurred with assuring quality of the products namely to prevent defective products and appraisal, i.e., costs incurred to detect defective products through quality audits, inspections, calibration costs, etc.
- *Purchasing*: expenses incurred with the acquisition of materials from outside suppliers, as well as internally. Examples are freight-in charges, sales taxes, custom duties etc.

Each of these four functions allocates labor costs, in the case of operations function, costs incurred with direct and indirect hourly (production supervisors) labor are the salaries, fringe benefits, canteen, overtime costs, night shift premium and transportation costs of workers to the plants. The salaried labour (engineers) costs from operations function concern the salaries and fringe benefits. For the other functions, labor costs incur only costs incurred with salaried labor (salaries and fringe benefits) as there is no direct neither indirect hourly labor. Overhead costs which are not directly related to the production but that are necessary include energy costs, travel expenses, staff training

[11] See Appendix 4- KarConnect's income statement.

costs, tools and equipment, rework costs, packing costs, fixed costs incurred with rents, leasing and insurance, and outside services such as the security of the buildings, hiring of external auditors and consultants etc.

Finally, value added costs[12] account for about 8% of revenues and include:

- *Engineering*: expenses incurred with the design and testing of components; expenses with R&D of innovative products and with environment sustainable certifications, etc;
- *SG&A*: expenses incurred with selling, as well as general and administrative functions such as the salaries from administrative staff and IT functions; and expenses incurred with marketing department but that are not significant;
- *Depreciation & Amortization*: costs associated with the buildings, production and administrative equipments, IT software, etc;
- *OCGS*: other costs of goods sold such as impairments, foreign exchange losses, subcontract expenses etc.

IV- Describing KarConnect Transfer Pricing System

As said before, Mr. Power has been pressured by tax authorities to prepare and present them a dossier describing KarConnect's transfer pricing system for transactions within Europe. In this way, tax authorities can fully study if the transfer prices applied by KarConnect respect the General Anti-Abuse Rule[13], in other words, if they are being set in accordance with the OECD Transfer Pricing Guidelines.

After having introduced Anita to the organization's business environment, Mr. Power thought it was time for her to become familiar with KarConnect's actual transfer pricing system and its purpose. Thus, he stated:

[12] A value-added cost is a cost that, if eliminated would reduce the perceived value or utility customers obtain from using the product or service (Horngren et al., 2009).

[13] General Anti-Abuse rule (GAAR) is a set of general rules established in tax codes aiming at counteracting avoidance of tax.

"The design of a transfer pricing system will determine the appropriate return for each of the KarConnect's PBUs and ensure the alignment of the transfer pricing system with the business strategic objectives[14]*. Moreover, it will help me to acknowledge the success or failure of performing each business activity".*

He also told Anita that KarConnect has two types of controlled transactions[15]:

1) inter PBU transactions;

2) intra PBU transactions.

with the following characteristics :

1) KarConnect inter PBU transactions refer to the sale, among KarConnect PBUs, of intermediate components, "electrical wire ties" and "connectors" needed to produce "wiring harnesses", the final product of the division. These inter PBU transactions are cross-border as the three PBUs and their plants are settled down in different countries and operate as separated legal entities. The first stage of these transactions begins with PBU A selling "electrical wire ties" to PBU B in order for this unit to produce "connectors" which are then sold to PBU C to produce "wiring harnesses". The prices charged by PBUs A and B are based on full-cost plus a reasonable profit opportunity[16]. In other words, the managers of these two PBUs set transfer prices equal to full-cost plus a 10% mark-up. Full-cost includes all the costs incurred to produce and sell the components[17], i.e., the cost of raw materials consumption, logistic costs, manufacturing expenses and value added costs. When setting these transfer prices, PBUs A and B's managers decided to use an estimate of raw materials, logistic costs, manufacturing expenses and value added costs that should be incurred under highly efficient

[14] See appendix 5- KarConnect Strategic Objectives.

[15] Controlled transactions relate to transactions of goods and/or services among organizational units (divisions, departments, business units) from the same organization. See Appendix 6- KarConnect's transactions.

[16] According to KarConnects' transfer pricing policy documents.

[17] See Appendix 4- KarConnect's income statement, as well as the last part of section III for detailed explanation of these costs.

conditions. In other words, the transfer price will include an estimative of costs when the company is operating without inefficiency. Besides, and due to the pressure from the tax authorities, Mr. Power is concerned whether the 10% mark-up applied by the managers of these two PBUs is in line with other companies. As such, he hired external consultants to study the mark-ups used by comparable companies[18]. The results of such study are shown in the table below.

Table 2 – Market study on mark-up from KarConnect's comparable companies

Summary of results: Full Cost Mark Up						
	2011	**2010**	**2009**	**2008**	**2007**	**Weighted Average**
Observations	*11*	*11*	*11*	*10*	*8*	*11*
Maximum	25,82%	20,92%	17,46%	29,28%	13,65%	**18,03%**
Median	8,54%	4,31%	6,72%	4,83%	10,36%	**6,53%**
Minimum	3,02%	1,08%	1,01%	0,13%	0,19%	**3,30%**

Source: KarConnect' s internal documents

As, based on a sample of a few KarConnect's comparable companies, the weighted average mark-up on full-cost transfer prices varies between 18,03% and 3,30%, Mr. Power concluded that the 10% mark-up on full-cost transfer price applied by KarConnect PBUs A and B is in line with the range of mark-ups from comparable companies.

2) KarConnect's intra PBU transactions relate to transactions within PBU C as this business unit is subdivided in two separated legal entities located in different countries: 1) plants where the manufacturing of "wiring harnesses" takes place; and 2) Service

[18] Comparable companies are legal entities that perform similar manufacturing activities and have similar characteristics in terms of functions performed, risks assumed, assets employed, etc. (KarConnect's internal documents)

Centres, which acquire "wiring harnesses" from PBU C's plants and sell and distribute them to the final customers. As a rule, Service Centres are strategically located in countries where KarConnect's customers are settled down for logistic and commercial reasons. Accordingly, the products that are transacted or transferred between PBU C manufacturing plants and service centres can be grouped as follows:

- *Prototypes*: when a customer orders KarConnect's final product, i.e., the "wiring harnesses", PBU C produces only the quantity needed for one car so that the customer tests if the product is in accordance with the desired features;
- *Pre-Serial*: once the prototype is approved by the customer, PBU C begins to produce small quantities of "wiring harnesses" for the customer to evaluate in more cars;
- *Serial*: after the final customer approval of the pre-serial, PBU C begins to produce the "wiring harnesses" in large quantities;
- *Aftermarket*: refers to special "wiring harnesses" which are not produced anymore but that PBU C has in storage for special situations such as car accidents.

For intra PBU transactions, the manager of PBU C has been setting a market-based transfer price which is calculated by deducting a functional discount from the selling price to KarConnect division final customer of, i.e., the car manufacturers. In other words, the transfer price is equal to 90% of the final customer sales price. The functional discount is similar to that provided to unrelated legal entities performing similar functions and assuming similar risks[19]. As a result of this policy of setting a market-based transfer price, PBU C manufacturing plants take the risk of their costs exceeding the market price and entail the majority of the market risk, whereas service centres make a 10% margin for the functions performed.

[19] The functional discount is the same as provided by transactions between independent companies/legal entities without the ability to influence such discount. (KarConnect's internal documents)

After enlightening Anita with the most important insights of the division and of the industry in which it operates, Mr. Power thinks she is ready to give her contribution to help him assessing and, if needed, refine KarConnect's transfer pricing system.

Proposed Assignment Questions

Mr. Power has a full-time job as KarConnects' finance manager and requests Anita's help to design an appropriate Transfer Pricing System to report to tax authorities. From now on the student is in charge of Anita's tasks. As such:

1) Start by helping Mr. Power defining the responsibility centres recognized by the OECD Transfer Pricing Guidelines and classify KarConnect's responsibility centres according to responsibility accounting. Comment also on the appropriate performance measurement system for each responsibility centre.

2) Mr. Power is not completely sure which transfer pricing methods- Cost-based and Market-based – are the most adequate for internal transactions in KarConnect division from management control and tax perspectives. How do you approach it?

3) Regarding the cost-based transfer pricing method used, explain if KarConnect division applies budgeted, actual or standard cost. What are the advantages of applying that type of cost?

In the last years, Mr. Power has been confronted by Tax Authorities whether he has been implementing legal practises as regards the division's transfer pricing system.

4) Do you think cost-based transfer prices used by KarConnect respect the Arm's Length Principle? Why?

Teaching Notes

1. Summary

This teaching case study aims to revise the transfer pricing system used by a division of a multinational operating in the car components industry during many years. Transfer pricing occurs when products or services are transferred inside an organization from one responsibility centre to another. Transfer prices functions as a cost for the buying entity (divisions, departments, units, etc.) and as a revenue for the selling entity. This case analysis the transactions in different countries done among three PBUs (product business units) of one division of a multinational and the implications of setting transfer prices from management control and tax perspectives. As such, students will be able to:

- get familiarized with a real-life example of how a multinational sets transfer prices of cross-border transactions;
- recognize the influence that tax authorities have on companies when choosing transfer prices;
- identify different types of responsibility centres and the appropriate performance measure system for each one;
- assess the impact of cost-based and market-based transfer pricing methods on the organizational entities' performance and on the company as a whole;
- recognize when transfer prices respect anti-abuse rules.

This case can be used to:

- introduce students with the OECD transfer pricing guidelines for multinationals;
- teach the concept of the arm's length principle and its relevance on transfer prices;
- discuss the various types of responsibility centres based on decision rights and performances measures;

- learn what are the advantages and disadvantages of cost-based and market-based transfer pricing methods;
- study how tax and management control purposes can affect the selection of transfer prices;
- revise the concept of standard costs for cost-based transfer prices and its advantages.

This case study can be used in advanced managerial accounting and management control systems courses. However, due to concepts related to taxation, namely the arm's length principle, students need to have studied international taxation before answering the four assignment questions of the case study. Another possibility would be to make available to students an appendix with such taxation concepts to help them answering the assignment questions.

Suggestions for class discussion:

1) The instructor must begin by introducing the students to the business reality of Karpart and its organizational structure;
2) Then, introduce very briefly KarConnect division and its business context, namely market competitors, its customers, suppliers, as well as present the division's business units, their roles and internal transactions;
3) After that the instructor can ask students which are the type of responsibility centres existing in KarConnect division suggesting they analyse which business decisions each of the managers of responsibility centres is accountable for, in addition, the instructor can also make available for students a copy of the responsibility centres recognized by OECD transfer pricing guidelines;
4) The instructor should then make reference to the pressure Mr. Power is facing from tax authorities to report to them the transfer pricing system used at KarConnect and discuss with students the appropriateness of such system from tax and management control

perspectives. The instructor can make available for students a copy of the transfer pricing methods recommended by OECD transfer pricing guidelines;

5) Discuss with students the types of costs used in setting transfer prices and make the students revise the case in order to conclude that cost-based transfer prices applied by KarConnect are set based on standard costs. Also discuss with them the advantages of using this type of costing;

6) Finally, the instructor may ask students to observe *table 2* with the results of the market study on the mark-ups of KarConnects' comparable companies and assess if a 10% mark-up on full costs respects the arm's length principle.

2. Suggestions of Responses for the assignment questions

The following responses are merely indicative. They address the main points that should be covered in relation to this case study and that the student should be able to answer.

1) Start by helping Mr. Power defining the responsibility centres recognized by the OECD Transfer Pricing Guidelines and classify KarConnect's responsibility centres according to responsibility accounting. Comment also on the appropriate performance measurement system for each responsibility centre.

The objective of this question is to make the student understand that when a transfer pricing system is designed, the roles and responsibilities of each of the managers of the different organizational entities (be them business units, divisions, departments, etc) must be assessed (Devonshire-Ellis et al, 2011). From a management accounting perspective, responsibility accounting is used to decentralize[20] decisions in organizations and is part of the performance evaluation system used to measure the operating results of the responsibility centres (Zimmerman, 2011). By defining the roles

[20] Decentralized organizations are organizations where managers at lower levels have freedom to make decisions. (Horngren et al., 2009)

and responsibilities of each of the organizational entities, managers will be able to define the success or failure of performing each of them (Devonshire-Ellis et al, 2011).

From a tax perspective, a responsibility accounting system allows the allocation of margins to each of the group organizational entities and assesses those with higher corporate income taxes. Thus, the purpose of responsibility centres is to link the business reality and the way the multinational does business to the appropriate method of compensation for each organizational entity (Devonshire-Ellis et al, 2011).

To answer this question, the student needs to know what a responsibility center is. A responsibility centre is a functional entity of an organization whose manager is accountable for a specified set of activities and decision rights. The activities and decision rights that are assigned to an entity classify it as a cost centre, a revenue centre, a profit centre or an investment centre. For each of these types, a different performance measurement system is assigned and designed to evaluate the decision rights of each entity and reward them. Thus, the student shall define the responsibility centres recognized by the OECD Transfer Pricing Guidelines for Enterprises and discuss on the appropriate performance measure system for each of them as follows:

- *Cost centres*: managers of these organizational entities are given the decision rights to determine the mix of inputs, such as labor, materials and external supplies that must be used to produce the output. These entities are assigned to produce a certain level of output and managers are rewarded based on their efficiency levels in terms of costs only. Performance measures of cost centres are based on the capacity of minimizing total cost for a fixed output, as well as maximizing output with a given budget. These types of responsibility centres are more effective when their managers know how to set up the optimal input mix as well as the profit-maximizing output (Zimmerman, 2011).

– *Revenue centres*: managers are accountable for revenues only, sometimes also for some costs such as sales force commissions but never for the cost of goods sold (Drury, 2012). In these responsibility centres, managers are rewarded based on the amount of sales or revenues per customer order, regardless of its size, cost of processing it or the cost of delivery. In terms of customer profitability, some customers can be unprofitable for the entity when the costs of ordering and delivery for small orders are high. As a result, this compensation system does not maximize the profits of the company as a whole. The solution for this problem is to make managers accountable for revenues and costs, i.e., transform the revenue centre into a (pseudo) profit centre and change the incentive system to a fixed percentage of the monthly profits per customer (Horngren et al., 2009).

– *Profit centres*: in these responsibility centres, managers are accountable for costs and revenues; their managers are provided with a given budget and their decision rights concern decisions in terms of price levels, inputs and product mixes, standard costs per products, and output quantities. Managers are responsible to monitor turnover and the costs and profits per products, as well as analyse variances between actual and budgeted profits. Profit centres are typically used when managers know how to select the optimal price/quantity and the optimal product mix that maximizes their entities' profits. The performance measures of profit centres are based on the difference between actual and budgeted accounting profits of the organizational entities. The goal of profit centre managers may be to increase the market share or the number of customer orders and focus on profit contribution and products quality (McWatters et all. 2008). In case of interdependencies among entities of the same company, profit centres have to debate on how to set transfer prices for the transferred goods and/or services. However, motivating profit centres to maximize their profits not always leads to the maximization of profits

for the company as a whole. This fact happens when individual entities focus only on maximizing their own profits and disregard how their behaviours (e.g. setting of transfer prices) affects the profits of other entities. The solution goes by changing the compensation system, i.e., profit center managers will be rewarded not just on their entity profits but also on the profits of the company as a whole (Zimmerman, 2011).

– *Investment centres*: in this case managers control costs, revenues and investments. These responsibility centres include the decision rights assigned to profit centres as well as additional decision rights. Thus, managers of investment centres have the same decision rights as of cost and profit centres but also regarding capital investments. Managers of investment centres are also responsible for the use of equity and debt, having total freedom to use the company's assets. They are held responsible for the determination of minimum required return on investments, monitoring of capital employed, analyse of variances on return on investments and of profits and their focus is based on sustaining long-term profitability (McWatters et all. 2008). Managers can recognize potential investment opportunities for their entities and have information and ability to make operating decisions. However, their decisions can influence the reputation of the other organization entities and of the company as a whole. If, e.g., one investment center decides to lower the quality of its products, it can undermine the reputation of the other organization entities as customers will think that these entities have also lowered the quality of their products (Zimmerman, 2011). The indicators used to measure the performance of an investment centre are its net income, return on investment, residual income and EVA (Economic Value Added). The first indicator, net income, equals revenues minus expenses, including expenses with interest on debt but it does not include equity financing to generate net income. Furthermore, this indicator does not evaluate the size of net income in relation to the invested capital. As a result,

net income as a performance measure can lead managers to overinvest as long as the net income is positive. The return on investment (ROI) is equal to net income divided by the total amount of assets invested. This indicator has the opposite effects of net income as it promotes underinvestment. This happens because the numerator of ROI, net income, recognizes expenses and losses but not gains as a result of the appreciation of assets while the denominator, the total assets invested, excludes intangible assets. The residual income (RI) is used as an alternative for ROI for evaluating the performance of an investment centre and is computed by deducting from operating income the weighted average cost of capital[21] multiplied by the capital invested. However, it is computed for just one year and does not measure the impact of investments in the future. In addition, larger entities with higher operating income have larger residual incomes than smaller entities, thus residual income can lead to non accurate comparisons of performance evaluation across investment centres (Zimmerman, 2011). The economic value added (EVA) is a refined RI using after-tax amounts, its formula is equal to after-tax operating income minus the after-tax weighted-average cost of capital multiplied by total assets minus current liabilities. The company creates value only if after-tax operating income exceeds the cost of investing the capital. Managers use estimated EVA to guide their decisions. Also, by comparing actual EVA with estimated EVA managers can evaluate the performance of their entities (Horngren et al., 2009).

After describing the four types of responsibility centres, the student has to determine the type of responsibility centres for each KarConnect's PBU regarding its decision rights and performance measures. The student should infer from the case that all three PBUs in which KarConnect is organized are profit centres. As stated in the case, the manager of each PBU is held responsible for setting selling prices, to decide

[21] The weighted-average cost of capital is the minimum required rate of return the firm must earn to cover the investment risk (Horngren et al., 2009).

inputs and product mixes, choosing suppliers and held accountable for selling to the external market on its own risk as well as to set transfer prices for selling to the other PBUs. Nevertheless, managers of PBUs are not able to decide about potential capital investments in their units, and for that reason, it is possible to exclude the option of business units being investment centres.

Finally, the student needs to acknowledge that transfer prices are set only among profit or investment centres (Drury, 2012). Therefore, the student has to conclude that KarConnect's responsibility centres cannot be cost or revenue centres.

2) **Mr. Power is not completely sure which transfer pricing methods- Cost-based and Market-based – are the most adequate for internal transactions in KarConnect division from management control and tax perspectives. How do you approach it?**

The objective of this question is to lead the students assess if the division's transfer pricing methods, cost-based and market-based, are the most appropriate from management control and tax perspectives. The instructor of the course must revise the concepts of cost-based and market-based transfer prices with students. Cost-based transfer prices are set up based on costs of production, either variable costs only or full costs. Cost-based transfer prices can also include a mark-up giving the seller a profit margin. Also cost-based transfer prices can be set based on standard or actual costs (explained in assignment question 3) (Horngren et al., 2011). Cost-based transfer prices are normally used when there is no external market for the transferred products or when the market is imperfect[22]or when the transferred products are specialized (Horngren et al., 2009). Transfer prices at variable cost are typically used when the selling entity does

[22] An imperfect competitive market is a market where the product is not homogeneous and its price can be affected by either its buyer or seller (Drury, 2012);

not incur any opportunity costs[23], i.e., it has excess capacity to transfer the goods or services internally (Horngren et al., 2011). Transfer prices based on full-cost or full-cost plus a mark-up include both variable costs as well as fixed costs. In this case, PBU A and B apply a 10% mark-up on full costs in order to be compensated for the opportunity cost of selling internally. This opportunity cost happens because PBU A and B also sell to external customers and thus, have limited capacity to satisfy all internal and external demand.

Market-based transfer prices must be set up in competitive markets, i.e., it is the external price that the selling entity charges for the transferred product or service to outside customers or the price used by competitors. These transfer prices are used when there is a perfectly competitive[24] external market for the transferred product or service. They also provide selling entities some profit gains (Noreen et all. 2011).

In addition, the student can make reference to some factors that can influence the selection of transfer pricing methods in multinational companies. Be those legal factors such as tax rates, tax laws and principles of tax authorities where the organizational entities are settled down; political and social factors, for instance, political instability, the corporations' ability to have good connections with the government of the country where business entities operate. Economic factors can also influence the selection of transfer pricing methods by means of exchange rates fluctuations, inflation rates, for competitive reasons or by way of performance and evaluation criteria and hence the rewards managers of entities receive (Doğan et all., 2013). Nevertheless, the two most prevalent reasons for the selection of transfer pricing methods within multinational

[23] Opportunity cost refers to the value forgone by the selling unit for not using the transferred product in its best alternative. (Zimmerman, 2011)

[24] A perfectly competitive market is a market where the product is homogeneous and its buyer or seller cannot affect the market prices. (Drury, 2012)

organizations are international taxation issues and performance measurement of profit and investment centres from the management control perspective (Zimmerman, 2011).

The student must acknowledge that it is possible that transfer pricing methods can be the most appropriate for one perspective, either tax or management control perspective, but not the best for the other perspective. To determine whether the transfer pricing methods are appropriate, the student shall decompose her/his answer in two parts:

Tax perspective: when the selling entity and the buying entity are located in different countries with different taxation rates, which is the case of all KarConnect's PBUs, and tax rates in one country are much lower than in others, it would be in any company interest if most of its profits were allocated to the entity operating in the country with lower tax rate. In other words, to pay less corporate taxes, companies locate its selling entities in countries with low tax rates and buying entities in countries with higher tax rates where they can report more costs to be tax deductible. In this way, multinationals have been using transfer pricing as a form of tax avoidance in order to reduce income taxes in a legal way (Drury, 2012).

However, OECD developed transfer pricing guidelines[25] which have been adopted by the tax authorities of OECD member countries in their legislation to regulate the use of transfer pricing for tax avoidance purposes. These guidelines are based on the Arm's Length principle which advocates that the price charged for the transferred products or services internally must be the price that would have been used between two unrelated entities (OECD guidelines; Drury, 2012). OECD transfer pricing guidelines state that this principle can be implemented adopting the following transfer prices methods:

[25] http://www.oecd.org/ctp/transfer-pricing/45765701.pdf

- *Comparable uncontrolled price method*: it compares the price charged for the transferred goods or services in a comparable uncontrolled transaction[26] in comparable[27] circumstances, i.e., the price charged between related entities in an organization must be similar to the price used between independent entities from different organizations and facing similar circumstances (operations, risks, functions etc.). If it is not similar, then the transaction does not respect the Arm's Length principle.
- *Resale price method*: the price at which a product that has been purchased from a related entity is resold to an external customer. This price is then deducted by a gross margin, determined by reference to gross margins in comparable uncontrolled transactions, enabling the reseller entity to cover its selling and operating expenses and also to be compensated for the functions performed.
- *Cost-plus method*: it incorporates in the price the costs incurred by the selling entity for producing and transferring goods or services to a related entity. A mark-up can be added to these costs as long as it is determined by reference to the mark-up earned by selling entities in comparable uncontrolled transactions.
- *Other methods*[28]

The student must recognize that KarConnect applies the cost-plus method based on full-cost plus a mark-up for inter PBU transactions and the resale price method for intra PBU transactions. As these methods are included in OECD guidelines, KarConnect transfer pricing methods respect the arm's length principle.

[26] According to OECD transfer pricing guidelines: "A comparable uncontrolled transaction is a transaction between two independent parties that is comparable to the controlled transaction under examination". See teaching notes appendix 1

[27] According to OECD transfer pricing guidelines: "…"comparable" does not mean "identical". To be comparable means that none of the differences (if any) between the situations being compared could materially affect the price or financial indicator being examined in the selected transfer pricing method…"

[28] Additional transfer pricing methods can be implemented, however they are not relevant for this case study, therefore they will not be covered here.

Management control perspective: the student must understand that transfer pricing is one of the pillars of management control as it influences the performance and decisions of entities and thus total company profits. Transfer prices provide information for companies to make good economic decisions and to achieve their strategy goals. Furthermore, they are used as a tool to evaluate and compare the managerial and economic performance of organizational entities. Thus, transfer prices can be used to motivate managers to maximize their entities' profits and improve profits of the company as a whole (Drury, 2012). Also transfer prices are used to support entities' autonomy in decision making and to promote goal congruence between an entity and the whole organization (Doğan et al., 2013).

Transfer prices affect the performance of entities involved in internal transactions because they influence their profits. In certain companies, profit is used as measure to evaluate the performance of each entity but also to motivate their managers. As a result, it is in the interest of the manager of each entity to show a good managerial and economic performance of his/her entity by showing high profits. (Horngren et al., 2009)

Economic theory says that the optimal transfer price should be equal to marginal/variable cost plus opportunity cost of transferring products internally that is equal to the contribution forgone by the selling entity from selling internally (Drury, 2012). However, for KarConnect inter PBU transactions, Mr. Power is using a transfer price equal to full (variable and fixed) costs plus a markup of 10% on these costs incurred by the selling unit. Cost-based methods are easy to justify to tax authorities and simple to implement because they are based on available data. In addition, it avoids possible disputes over which costs are fixed and which are variable (Zimmerman, 2011).

One of the reasons that induces companies to apply cost-based transfer prices is when there is no perfectly competitive market for intermediate products, i.e, the buying entities cannot find in the external market such products or when there are synergies between entities where there is a need for specialized products that can only be attained producing them internally or also when the internal product is different from the products available externally in terms of quality and customer service (Horngren et al., 2009). In the case of KarConnect, there is an imperfect market for intermediate components, that is to say, "electrical ties" and "connectors", as car manufacturers order customised "wiring harnesses", i.e., with specific features and, as a result, PBU A and PBU B need to produce the intermediate components adjusted to these specific features. KarConnect PBU C could buy these intermediate components in the external market but they would not meet all the specific features in terms of quality, timely supply etc., needed for the customised "wiring harnesses", that's why the division prefers to produce them internally.

Cost-based transfer prices have disadvantages when based on actual costs, which are the real costs incurred to produce the intermediate products, as the selling entity can transfer its inefficiencies to the buying entity by increasing the transfer price. This does not incentive managers of selling entities to be efficient and control their costs. As a result, the buying entity will be more willing to buy in the external market. But if there is no market or it is imperfect, the buying unit will have no other option than to buy internally and the company total profit can be affected. Another issue is that full-cost transfer prices can exceed the marginal cost to the entity of producing and transferring one more unit of product internally, especially when this entity has excess capacity and thus, the buying entity will be more willing to buy in the external market (Zimmerman, 2011).

Regarding the market-based method, KarConnect uses the resale price method by deducting the gross margin of a comparable uncontrolled transaction from the resale price to non-related parties. That is, the gross margin equals to 10% of the final customer's price which means that the transfer price used for transfers between PBU C plants and service centres equals 90% of the final price to car manufacturers. This type of method is often used in the situation where the reseller performs only the resale of goods (Doğan et al., 2013). This applies for KarConnect given that PBU C service centres only sell and distribute to car manufacturers. Market-based transfer prices are used when there is a perfectly competitive market to acquire intermediate products. In this case, KarConnect could hire an external company to provide distribution services and sell directly to car manufacturers from its plants. Nevertheless, market-based transfer prices have some advantages as they encourage managers of selling entities to use scare resources more efficiently and thus, reduce their costs and show higher profits. Moreover, it allows the performance of the organizations entities to represent the real economic contribution of the entities to total company profits, e.g., if manufacturing units from KarConnect PBU C would not be able to make a long-run profit by applying the market-based price, then KarConnect would be better off by not producing its "wiring harnesses" internally. In addition, it allows managers of entities to compare profitability of their entities with the profitability of similar companies operating in the same type of business (Drury, 2012). The disadvantages of this method arise when there is no market for the intermediate products or the market is imperfect which makes hard for entities to define the market price. Another difficulty is that market-based transfer prices limit companies to compete in the market and to pursue their strategic goals when the market prices are too low (Zimmerman, 2011).

The student should conclude that from tax perspective, cost-based and market-based transfer prices can be adequate but from the management control perspective, it depends on the circumstances, thus managers have to choose the methods that balance decision making, control and taxes (Zimmerman, 2011). The ideal solution would be setting two transfer pricing methods, one for tax purposes and another one for internal purposes. However, it can be costly and confusing to users (Drury, 2012).

3) **Regarding the cost-based transfer pricing method used, explain if KarConnect division applies budgeted, actual or standard cost. What are the advantages of applying that type of cost?**

This question aims to clarify which type of costs KarConnect uses when setting a transfer price equal to full-cost plus a markup. Companies can use either budgeted costs which are set as the maximum amount a company can spend; actual costs which represent the companies' past or historical incurred costs and finally, standard costs which are pre-determined costs used as a benchmark for evaluating performance. The correct answer is that KarConnect is using standard cost; the student can infer this as it is stated in the case in section IV that "When setting these transfer prices, PBUs A and B's managers decided to use an estimate of raw materials, logistic costs, manufacturing expenses and value added costs that should be incurred under highly efficient conditions". Standard costs should be computed by building up what the cost should be under efficient economic conditions, which implies that a study of the individual operations, material components, labor and overhead costs must be performed. Standard costs derive from the company's budget and represent the expected costs under efficient economic conditions of material, labor and production and are used as a benchmark to compare with actual costs. Thus, standard costs are used as a performance measure.

To finish answering this question, the student must then list the main advantages of standard costs as:

- using standard costs for pricing internal transactions ensures that inefficiencies in actual costs and costs of unused capacity are borne by the selling business unit instead of the buying unit (Drury, 2012), thereby encouraging the selling business unit to control its inefficiencies;
- standards are achieved through efficient operations but allow for normal disruptions such as labor lay-offs, calamities, impairment losses on financial assets etc. (KarConnect's internal documents);
- setting challenging standards that can be difficult to obtain can increase motivation and performance (Horngren et al., 2009);
- standard costing is used for cost control and leads managers to focus on areas not performing as expected through variance analysis on actual costs (Horngren et al., 2009);
- standard costs are often viewed as reasonable by employees and can promote efficiency (Noreen et all., 2011);
- standard costs are used for responsibility accounting by establishing what costs should be, who should be responsible for them and whether actual costs are under control (Noreen et all., 2011).

4) **Do you think cost-based transfer prices used by KarConnect respect the Arm's Length Principle? Why?**

The objective of assessing if cost-based transfer prices used by KarConnect respect the Arm's Length Principle is to recognize if the company respects transfer

pricing rules regarding commercial relations between related parties[29] by using the same terms and conditions that would have been adopted by independent parties. These transfer pricing rules can be found in OECD Transfer Pricing Guidelines for Multinational Enterprises and Tax Administrations set in 2010.

The student should start by defining the Arm's Length Principle: it relates to the price that would have resulted if the prices used had been between two unrelated parties (Drury, 2012).

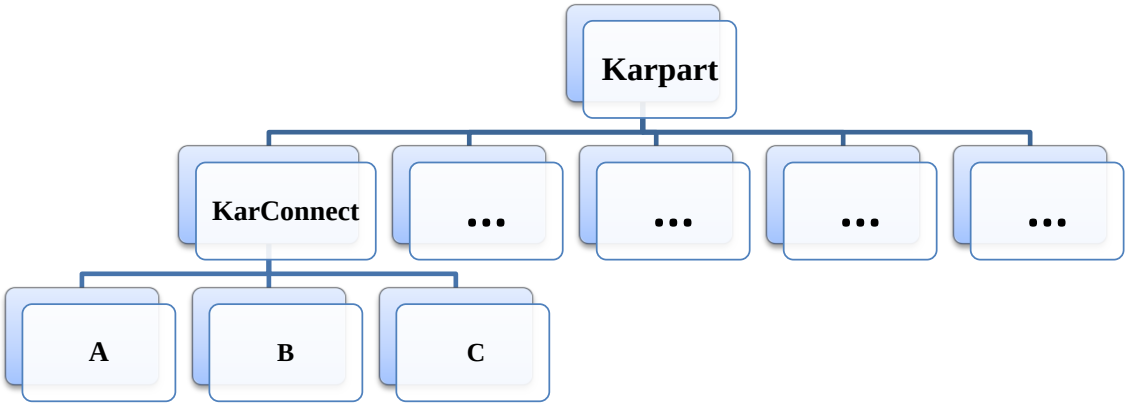
Then, in order for the student to assess if cost-based transfer prices adopted by KarConnect are in accordance with the Arm's Length principle, the student should compare the mark-up that is added to full costs to set up the transfer price of KarConnect's inter PBU transactions, with the mark-up used by comparable companies. This can be seen in *table 2* in section IV of the case where the results of a market study on mark-ups from KarConnect's comparable companies are shown.

The student must conclude that the 10% mark-up on full costs used in KarConnect's inter PBU transactions is slightly overpriced comparing to the 6,53% countries average median mark-up. However, it is below the maximum countries average value of 18,03%. Therefore, the applied mark-up is within the range of those from KarConnect comparable companies. The student should therefore agree with Mr.Power's conclusion that KarConnect's cost-based transfer prices are lined up with its comparable companies and thus, respect the arm's length principle.

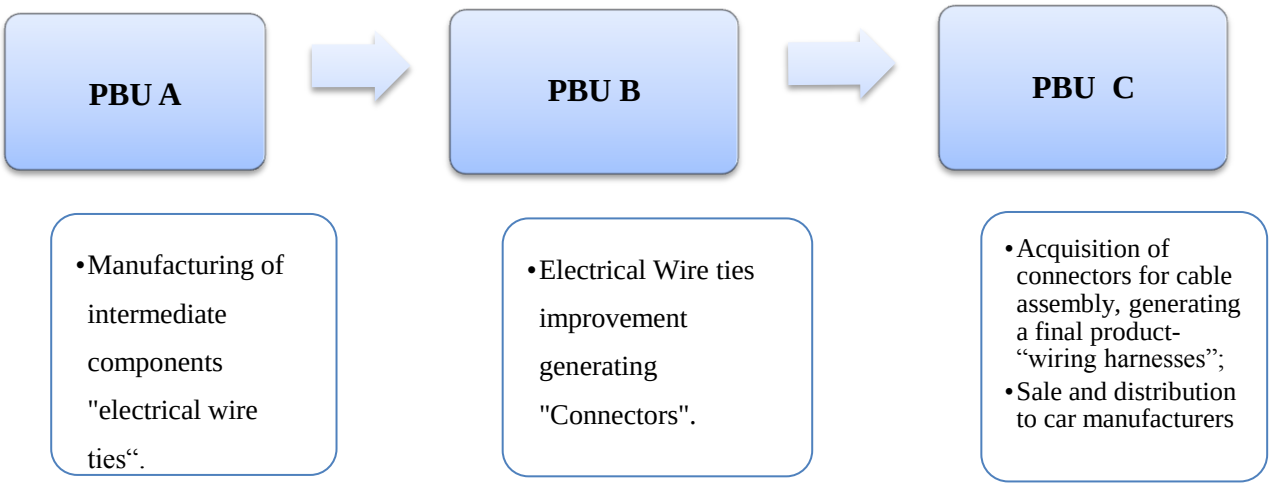
[29] Parties may refer to entities such as divisions, departments, units etc.

Appendices- Case Study

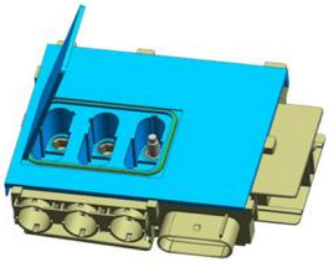
Appendix 1 – Karpart Organizational Chart



Appendix 2 – KarConnect Production Process



Appendix 3 – Connector



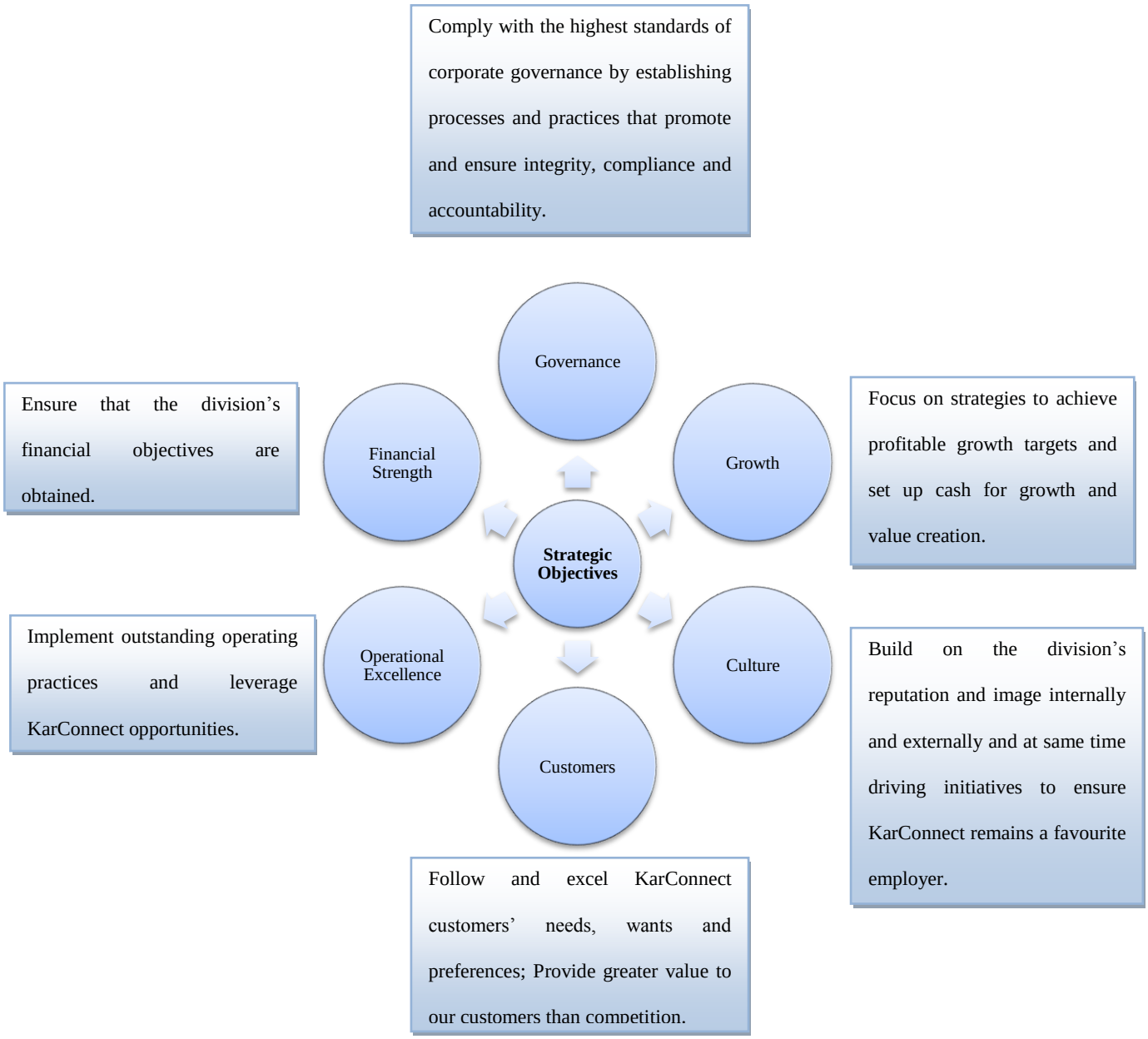
Source: Adapted from Karpart's internal documents

Appendix 4 – KarConnect's Income Statement

TOTAL EUROPE	Forecast 2015	Bud 2015
Revenue	100%	100%
Material Comsuption	55%	55%
% Revenue		
Contribution Margin	**45%**	**45%**
% Revenue		
Logistic Costs	2,8%	2,7%
% Revenue		
MFG Expenses	21,9%	21,3%
% Revenue		
FACTORY MARGIN	**20%**	**21%**
% Revenue		
SG&A	4,65%	4,43%
ENGINEERING	4,45%	4,53%
OCGS	-1,67%	-1,14%
D&A	1,80%	1,86%
Restructuring	0,00%	0,01%
OPERATING INCOME	**11%**	**11%**
% Revenue		

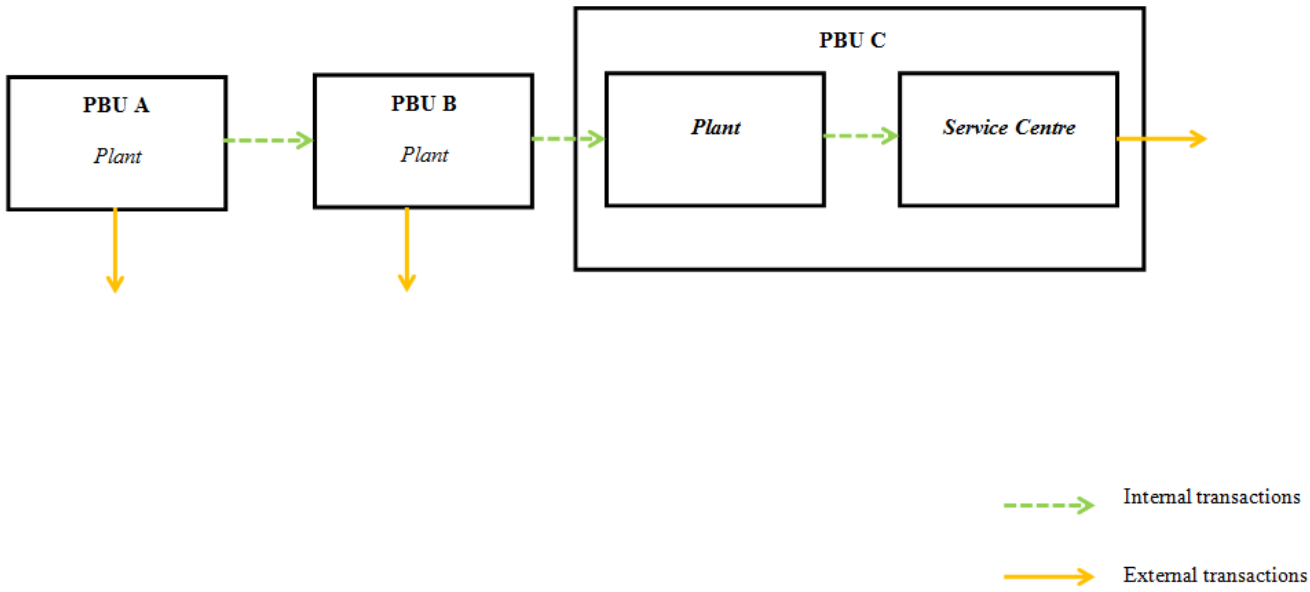
Source: Adapted from Karpart's internal documents

Appendix 5 – KarConnect Strategic Objectives



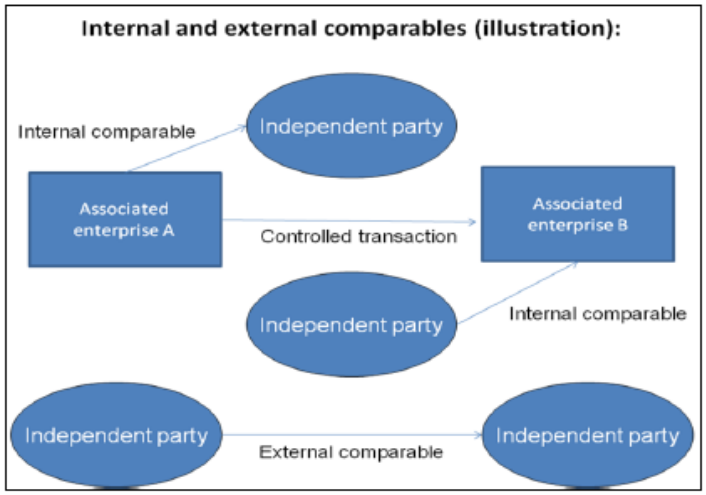
Source: Adapted from Karpart's internal documents

Appendix 6 – KarConnect's transactions



Appendices- Teaching Notes

Appendix 1 – Internal and external comparables



Source: OECD Transfer Pricing Guidelines

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